In the Claims

Applicant has submitted a new complete claim set showing marked up claims with insertions indicated by underlining and deletions indicated by strikeouts.

Please cancel claims 9 and 20-39 without prejudice or disclaimer.

Please amend pending claims 42 and 47 as noted below.

1-39. (Canceled)

40. (Original) A method for identifying lead compounds for a pharmacological agent useful in the treatment of conditions associated with increased neuronal depolarization induced by the presence of β-amyloid peptide (Aβ) aggregates, comprising

providing a neuronal cell in a medium containing a potentiometric compound, wherein the influx into the neuronal cell of the potentiometric compound upon depolarization of the neuronal cell is detectable,

forming a mixture comprising a Aβ containing a β-sheet forming domain, and a candidate pharmacological agent,

incubating the mixture under conditions which, in the absence of the candidate pharmacological agent, permit the Aβ to aggregate,

contacting the neuronal cell with the mixture, under conditions which, in the presence of Aβ aggregates, permit influx of a control amount of the potentiometric compound into the neuronal cell, and

detecting the potentiometric compound as a measure of the relative depolarization of the neuronal cell, wherein detection of a lesser amount of potentiometric compound in the neuronal cell than is present when the neuronal cell is contacted with Aβ aggregates indicates that the candidate pharmacological agent is a lead compound for a pharmacological agent which disrupts Aβ aggregation.

41. (Original) The method of claim 40 wherein the candidate pharmacological agent is a peptide.

42. (Currently amended) The method of claim 40 wherein the candidate pharmacological agent is a small organic molecule having a molecular weight of more than 50 yet less than about 2500.

43. (Original) The method of claim 40, wherein the potentiometric compound is fluorescent.

44. (Original) The method of claim 43, wherein the potentiometric compound is bis-(1,3-dibutylbarbituric acid)trimethine oxonol ($DiBAC_4(3)$).

45. (Original) A method for identifying lead compounds for a pharmacological agent useful in the treatment of conditions associated with increased neuronal depolarization induced by the presence of β-amyloid peptide (Aβ) aggregates, comprising

providing a neuronal cell in a medium containing a potentiometric compound, wherein the influx into the neuronal cell of the potentiometric compound upon depolarization of the neuronal cell is detectable,

contacting the neuronal cell with Aβ aggregates under conditions which permit influx of a control amount of the potentiometric compound into the neuronal cell,

detecting the potentiometric compound in the neuronal cell as a measure of depolarization induced by Aβ aggregates,

contacting the neuronal cell with a candidate pharmacological agent, and

detecting the potentiometric compound in the neuronal cell as a measure of the relative depolarization of the neuronal cell in the presence of the candidate pharmacological agent, wherein detection of a lesser amount of potentiometric compound in the neuronal cell than is present when the neuronal cell is contacted with Aβ aggregates but not the candidate pharmacological agent indicates that the candidate pharmacological agent is a lead compound for a pharmacological agent which reduces Aβ aggregate induced neuronal cell depolarization.

46. (Original) The method of claim 45 wherein the candidate pharmacological agent is a peptide.

47. (Currently amended) The method of claim 45 wherein the candidate pharmacological agent is a small organic molecule having a molecular weight of more than 50 yet less than about 2500.

48. (Original) The method of claim 45, wherein the potentiometric compound is fluorescent.

49. (Original) The method of claim 48, wherein the potentiometric compound is bis-(1,3-dibutylbarbituric acid)trimethine oxonol ($DiBAC_4(3)$).